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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/808,642	03/25/2004	Darren Fawcett	BAI525/	6126
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HEAD, JOHNSON & KACHIGIAN 228 W 17TH PLACE TULSA, OK 74119			EXAMINER SINGH, HIRDEPAL	
			ART UNIT 2611	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

**Office Action Summary**

Application No.

10/808,642

Applicant(s)

FAWCETT, DARREN

Examiner

Hirdepal Singh

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 25 March 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

1. This action is in response to the preliminary amendment filed on March 25, 2004.  
Claim 1-20 are pending and have been considered below.

#### ***Claim Objections***

2. Claim 3 is objected to because of the following informalities: Claim 3 has limitation " the predefined bit error rate limit is  $2e^{-04}$ ". This is unclear whether it is as  $(2 * e^{-04})$  or  $(2 * e * -04)$ . Examiner interprets it to be  $(2 * e^{-04})$  in the office action below.  
Appropriate correction is required.

#### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1-2 and 12-15 are rejected under 35 U.S.C. 102(e) as being anticipated by Lakkis (US 6,694,131).

**Regarding claims 1, 13 and 14:**

Lakkis discloses an apparatus (figure 3) for the reception of data transmitted to the apparatus over any of a range of radio frequency signals within a known frequency band or bands, the radio frequency signal selectable by the apparatus in response to a user selection of a television or radio channel to be generated by the apparatus from the received data (abstract), said apparatus comprising:

a tuner to tune to the selected radio frequency signal (abstract; column 8, lines 7-10) wherein a bit error rate output of the data carried by the selected radio frequency signal is monitored (column 3, lines 65-67); and

a control means (column 8, lines 7-10) for introducing an offset frequency value for the selected radio frequency signal if the bit error rate exceeds, during reception, a predefined bit error rate limit (column 4, lines 1-4) and the apparatus is then operated to tune to a frequency equivalent to the selected radio frequency signal plus or minus said the offset frequency value (column 4, lines 6-14; column 7, lines 5-12; column 9, lines 26-44).

**Regarding claims 2 and 15:**

Lakkis discloses all of the subject matter as described above and further discloses that upon re-tuning to the frequency including the offset frequency value, the bit error rate is monitored and if the bit error rate value is within the predefined bit error

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rate limit (column 10, lines 25-35) the tuner continues to tune to the frequency value including the offset frequency value (figure 7).

**Regarding claim 12:**

Lakkis discloses all of the subject matter as described above and further discloses that the apparatus includes a broadcast data receiver (figure 6) provided to receive the data on the selected radio frequency signal, decode (706 in figure 7) the same and use the data to generate video and/or audio (106 as in figure 1; column 1, lines 20-30 "cellular phone generates audio/video based on the received data") for the selected television or radio channel to which the selected radio frequency is related.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 3 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lakkis (US 6,694,131) in view of Naruse (US 2002/0183026).

**Regarding claims 3 and 17:**

Lakkis discloses all of the subject matter as described above except for specifically teaching that the predefined bit error rate limit is  $2e-04$ , means the BER is ( $2 * e^{-04} = 0.036636$ ).

However, Naruse in the same field of endeavor discloses a system for data communication where the bit error rate is below 0.036636 i.e. the BER is  $0.1\% = 0.001$  (figure 3; paragraph 0039).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to use a lower bit error rate for the system in order to make the reception quality better and keep the interference below a required level.

7. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lakkis (US 6,694,131) in view of Abraham et al. (US 6,880,115).

**Regarding claim 4:**

Lakkis discloses all of the subject matter as described above except for specifically teaching that the tuner is controlled to tune to radio frequencies within the digital video broadcasting DVB intermediate frequency band for satellite tuners.

However, Abraham et al. in the same field of endeavor discloses a system for receiving radio frequency RF signals where the radio frequencies are within the digital video broadcasting DVB intermediate frequency band for satellite tuners (column 1, lines 12-34; column 3, lines 38-55; column 6, lines 28-34).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to implement the use of tuning apparatus to control the frequencies in digital video broadcasting DVB intermediate frequency band for satellite tuners in order to make the system compatible with the standards used in different parts of the world to take advantage of the wider scope in today's competitive market.

8. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lakkis (US 6,694,131) in view of Bruckmann et al. (US 7,009,641).

**Regarding claim 5:**

Lakkis discloses all of the subject matter as described above except for specifically teaching that the bit error rate of the selected radio frequency signal is caused to exceed the predefined bit error rate limit by interference caused by any or any combination of global system mobile communication GSM or digital enhanced cordless telecommunication DECT devices, WLAN wireless local area network devices and/or devices which operate in the surrounding environment at a relatively close radio frequency to the selected radio frequency.

However, Bruckmann et al in the same field of endeavor discloses a system for receiving radio frequency RF signals where bit error rate exceed the predefined bit error rate limit by interference caused by any or any combination of global system mobile communication GSM or digital enhanced cordless telecommunication DECT devices, WLAN wireless local area network devices (column 3, lines 62-67; column 4, lines 50-

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55; column 6, lines 32-45) and/or devices which operate in the surrounding environment at a relatively close radio frequency to the selected radio frequency.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to implement the use of tuning apparatus in the world wide standards for communication e.g. global system mobile communication GSM or digital enhanced cordless telecommunication DECT devices, WLAN wireless local area network and the interference caused in the operation of the apparatus is therefore definitely caused when the systems is used in the above mentioned standards as making the system compatible with well known standards helps in making it a commercial success.

9. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lakkis (US 6,694,131) in view of Casabona et al. (US 2004/0042569).

**Regarding claim 6:**

Lakkis discloses all of the subject matter as described above except for specifically teaching that the apparatus includes at least one low noise block down-converter LNB.

However, Casabona et al in the same field of endeavor discloses a system for receiving radio frequency RF signals with controlled bit error rate where the apparatus includes at least one low noise block down-converter LNB (figure 3; paragraph 0035-0036).



Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to use a LNB low noise block down-converter in the system in order to take advantage of its features to bring wide block of relatively high frequencies, amplify and convert them to similar signals at lower intermediate frequencies, as the loss and attenuation at low frequencies is less also It is easier and cheaper to use low frequencies in the system rather than the very high frequencies of satellite transmission.

10. Claims 7-9 and 18-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lakkis (US 6,694,131) in view of Casabona et al. (US 2004/0042569) as applied to claim 6 above, and further in view of Middeke et al. (US 6,445,907).

**Regarding claims 7 and 18:**

Lakkis discloses all of the subject matter as described above except for specifically teaching that when selected radio frequency signal and the bit error rate exceeding the predefined bit error rate limit, said low noise block down-converter is controlled to move from receiving a selected radio frequency signal within a low band frequency range to receiving a frequency located in a high band frequency range or vice versa.

However, Middeke et al in the same field of endeavor discloses a system for receiving radio frequency RF signals with controlled bit error rate where the apparatus includes low noise block down-converter that is controlled to move from receiving a selected radio frequency signal within a low band frequency range to receiving a

frequency located in a high band frequency range or vice versa (column 1, lines 42-46; column 4, lines 15-20; column 6, lines 44-51).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to use a LNB low noise block down-converter in the system in order to take advantage of its programmable features to bring wide block of relatively high frequencies, amplify and convert them to similar signals at lower intermediate frequencies, as the bit error rate exceeds predetermined value to tune to the required frequency to keep the selected signal with minimal interference.

**Regarding claim 8 and 19:**

Lakkis discloses all of the subject matter as described above except for specifically teaching that the LNB low noise block down-converter is multiband or programmable and~ upon the bit error rate of a selected frequency signal exceeding the predefined bit error rate limit, the low noise block-down converter is controlled to receive a frequency equivalent to the selected radio frequency signal plus or minus a fixed offset frequency value.

However, Middeke et al in the same field of endeavor discloses a system for receiving radio frequency RF signals with controlled bit error rate where the apparatus includes low noise block down-converter that is programmable to move from receiving a selected radio frequency signal within a low band frequency range to receiving a frequency located in a high band frequency range or vice versa (column 1, lines 42-46; column 4, lines 15-20; column 6, lines 44-51).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to use a LNB low noise block down-converter in the system in order to take advantage of its programmable features to bring wide block of relatively high frequencies, amplify and convert them to similar signals at lower intermediate frequencies, as the bit error rate exceeds predetermined value to tune to the required frequency to keep the selected signal with minimal interference.

**Regarding claim 9:**

Lakkis discloses all of the subject matter as described above except for specifically teaching that the bit error rate of a selected frequency signal exceeding the predefined bit error rate limit, another LNB low noise block down-converter frequency range band is used whilst maintaining the requirement of using an Intermediate frequency band between 950MHz to 2150MHz.

However, Casabona et al in the same field of endeavor discloses a system for receiving radio frequency RF signals when bit error rate of a selected frequency signal exceeding the predefined bit error rate limit, another LNB low noise block down-converter frequency range band is used whilst maintaining the requirement of using an Intermediate frequency band between 950MHz to 2150MHz (figures 3-5; paragraph 0035-0036).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to use a LNB low noise block down-converter in the system in order to take advantage of its features to bring wide block of relatively high frequencies, amplify

and convert them to similar signals at lower intermediate frequencies, as the loss and attenuation at low frequencies is less, when the bit error rate of a selected frequency signal exceeding the predefined limit, another LNB low noise block down-converter frequency range band is used to bring the selected range closer to the required frequency range so that the tuner is able to select the particular intermediate frequency.

11. Claims 10, 11, 16 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lakkis (US 6,694,131) in view of Mobin et al. (US 6,522,696).

**Regarding claim 10:**

Lakkis discloses all of the subject matter as described above except for specifically teaching that the offset frequency value is initially set at a first value and added or subtracted from the original frequency and the apparatus re-tuned to the new frequency.

However, Mobin et al in the same field of endeavor discloses a system for receiving radio frequency RF signals with frequency correction where the offset frequency value is initially set (column 5, lines 32-36) at a first value and added or subtracted from the original frequency and the apparatus re-tuned to the new frequency (as shown in figure 1A and 1B "AFC block 32 re-tunes the frequency based on control signal from adaptive tracking block 58").

Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to set the offset frequency value initially and added or subtracted from

the original frequency and re-tune the system as taught by Mobin to the new frequency when the bit error rate of a selected frequency signal exceeding the predefined limit, to keep the frequency range closer to the required frequency range so that the tuner is able to select the particular intermediate frequency with allowable bit error rate.

**Regarding claims 11 and 16:**

Lakkis discloses all of the subject matter as described above except for specifically teaching that if the bit error rate still exceeds the predefined level then successive increases in the offset value are made, the apparatus re-tuned and the bit error rate re-checked at each increase and this is continued until the bit error rate is at or below the predefined bit error rate limit.

However, Mobin et al in the same field of endeavor discloses a system for receiving radio frequency RF signals with frequency correction where if the bit error rate still exceeds the predefined level then successive increases in the offset value are made (column 12, lines 40-45), the apparatus re-tuned and the bit error rate re-checked at each increase and this is continued until the bit error rate is at or below the predefined bit error rate limit (column 6, lines 62-67 "equalizer keep updating the frequency offset until within predefined number/limit").

Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to set the offset frequency value initially and added or subtracted from the original frequency and re-tune the system as taught by Mobin to the new frequency when the bit error rate of a selected frequency signal exceeding the predefined limit, to

keep the frequency range closer to the required frequency range so that the tuner is able to select the particular intermediate frequency with allowable bit error rate

**Regarding claim 20:**

Lakkis discloses all of the subject matter as described above except for specifically teaching that the control means is provided in software within said apparatus.

However, Mobin et al in the same field of endeavor discloses a system for receiving radio frequency RF signals where the control means is provided in software (column 9, lines 1-8 "DSP is implementation is based on software") within said apparatus.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to use software means to control the system bit error rate in order to make the system adaptable to the changes in the incoming signal frequency, phase and to keep the interference and bit error rate under control, while making the system able to be updated according to future needs.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hirdepal Singh whose telephone number is 571-270-

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1688. The examiner can normally be reached on Mon-Fri (Alternate Friday Off) 8:00AM-5:00PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Shuwang Liu can be reached on 571-272-3036. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

HS  
September 11, 2007



**SHUWANG LIU**  
**SUPERVISORY PATENT EXAMINER**